SAFETY MEETING REPROS
NSF SAFETY DEPARTMENT

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Eyewashes and Safety Showers

Despite Our Best Efforts, Accident Do Happen

No one wants to be in an accident. That's why we carefully evaluate each project before we begin work.

We gather the tools and equipment that we need to do the job. We make sure we know what materials we will be using, and get them together as well.

We read up on any operating procedures or instructions that we are not familiar with, and plan each step of the job.

We also take steps to protect ourselves in case something unexpected occurs. We make sure we have any personal protective equipment we need for the tools and materials we are using. We refresh our memory about emergency phone numbers and evacuation routes.

But In spite of all our precautions, accidents sometimes happen. When they do, it is important to take action quickly. In these situations, a safety shower of an eye wash can be very important.

There Are Many Types of Shower and Eye Washes

There are many types of safety showers and eye washes. The best models allow you to activate the flow of water with just one "action" … such as stepping on a foot pedal, or tripping a hand lever. The water will then continue to flow until you turn in off.

Safety shower should have a strong enough flow of water to immediately drench the victim. They should provide enough water so that showering can continue for a minimum of 15 minutes.

Eyewashes should produce a soft stream or spray. Newer eye wash stations "aerate" the water, to make it as comfortable and effective as possible.

Like safety showers, the flow of water in eye washes should last for a minimum of 15 minutes.

Stations Should Be Located Where Chemicals Are Present

Safety showers and eye washes should be located wherever hazardous substances (such as corrosives) are used or stored. These chemicals can cause severe damage to both the skin and eyes. Corrosives are especially dangerous.

Several types of chemicals have corrosive qualities.

They include:

- Strong acids.
- Oxidizing agents.
- Strong bases.
- Dehydrating agents.

Commonly found corrosives include potassium hydroxide, which can inflict particularly severe damage to the eyes…and nitric acid, which is used extensively in laboratories and by chemical manufacturers.

A corrosive splash to the face can be especially dangerous. Many corrosives can cause severe damage to the cornea of the eye. A single splash could mean permanent blindness.

Make sure you know when you are working around corrosive chemicals…as well as what steps you should take to protect yourself.

Read MSDS's before Working with Chemicals

Chemicals are so common in many workplaces that we often forget their danger.

You need to know if the materials that you work with could require the use of an eye wash or a safety shower in case of an accident.

The best way to determine this is to read the chemical's Material Safety Data Sheet (MSDS).

The MSDS will tell you what characteristics the chemical has, such as whether it is a corrosive. It will also tell you what steps you should take in case of an accident.

You should also read all container labels prior to working with the substance. Don't "sniff" inside a container to try and determine what the chemical is. It could be toxic, or accidentally splash into your eyes.

If you have any questions after reading the Material Safety Data Sheet, or you can't find the sheet for the particular substance, consult your supervisor.

Personal Protective Equipment Can Limit Exposure to Hazards

Choosing the appropriate personal protective equipment is very important in limiting your exposure to hazardous chemicals…and will help you avoid having to use safety showers and eye washes.

Again, Material Safety Data Sheets are a good source of information. They will tell you what PPE is recommended when working with a chemical.

The most common personal protective equipment that is recommended by MSDS's for working with hazardous chemicals includes:

- Goggles.
- Face shields.
- Gloves.
- Aprons.

Before you work with chemicals that may require the use of a safety shower or an eye wash you should also review your facility's Hazard Communication Program. It will provide you with additional information on how to work safely with chemicals you are using.

The plan will also talk about what to do in "exposure situations"…such as how to best use the different types of safety showers and eye washes in your facility.

Know Where Showers and Eye Washes Are In Your Area

Water is considered to be the "first line of defense" against the hazards that are involved in contact with many chemicals.

Because of this, you need to be especially sure that you know where to find the safety showers and eye washes in your facility…since they are the most effective "water supplies." A good exercise is to team up with a co-worker and practice how to get to the nearest shower or eye wash with your eyes closed.

You should also know how to operate the various models of safety showers and eye washes that are installed in your facility. They don't all work the same way, and you need to know what to do to activate each model before an emergency occurs.

Not only should you know what to do in case you have to use a safety shower or eye wash, but you need to know how to assist co-workers in case of trouble.

Taking the time to learn these things before an incident occurs could save someone's eyesight…or even their life.

Showers and Eye Washes Must Function Properly

In order to be helpful in an emergency, safety showers and eye washes must function properly. Unfortunately, problems can occur. Pipes can get stopped up. Shower heads can clog and slow the flow of water. Drains can back up and may not empty fast enough…creating a pool of contaminated water.

Shower and eye wash equipment should be tested periodically. If you are involved in this process, set up a testing schedule…and make sure you stick to it.

When you conduct a test, tag the piece of equipment with the date and results of the test. Contact your supervisor if you discover any problems.

It should also be easy to reach safety showers and eye washes in an emergency.

Keep routes to the stations in your area free of boxes and other materials.

Make sure the areas under the showers themselves are clear, as well.

A Number of Tests Should Be Conducted

A number of different tests should be conducted on each shower and eye wash.

Check to make sure the water is "potable." If a piece of equipment is not used for some time, the water can become stagnant or rusty. This can cause problems of its own.

In general, if there is a drain under the shower, water should be kept in the trap. This will keep sewer gases, which can be flammable and toxic, from rising into the room.

Again, the results of these tests should be recorded on a tag attached to the shower or eye wash. The date should be entered, as well as the initials of the inspector.

If you find a problem, report is immediately. Find out when it will be repaired and schedule a retest shortly afterward. Remember to record the results of the retest on the attached tag.

Know What to Do for Chemical Splashes

If you are splashed by a substance you need to act quickly.

- Don't panic.
- Move quickly but deliberately.
- Call out to the nearest co-worker for help.
- Get to a shower or eye wash station (depending on extent of the splash) as quickly as possible.

If you are helping a victim who requires showering:

- Make sure the victim is completely drenched.
- Remove any PPE.
- Completely soak the victim's clothes, and then remove them (at least to the underwear).
- Remove the victim's shoes, as well.

Don't worry about getting water and chemicals on your clothes and skin. Most of what will hit you is clean shower water. Even if you do come into contact with some of the chemical, it will usually be well diluted.

Guard Against Hypothermia

Shower water is normally cold, and a splash victim will be drenched quickly. This can cool the body down rapidly, and treatment for hypothermia may be necessary. Monitor the victim closely.

After the initial deluge the victim can be taken to an alternate area (with warmer water) to complete showering.

In this case:

- Remove the victim's remaining clothing.
- Have them complete the showering process.
- Make sure that total showering time is at least 15 minutes.

Anyone helping the victim to shower will also probably be wet. Since this can lead to exposure to the hazardous chemical as well, "helpers" may also need to be decontaminated.

In most cases, this means that they will also need to take a shower. Again, make sure that no one is chilled, and that hypothermia does not become a concern for the helpers either.

Decontaminate or Dispose of Contaminated Clothing

After showering, both the victim's and helpers' clothing will most likely be contaminated with the hazardous chemical.

Clothing should be decontaminated prior to laundering. If the splashed substance is particularly hazardous, the clothing should be disposed of.

When disposing of clothing, make sure to follow your facility's written procedures. In some cases, the clothing may need to be handled as "hazardous waste".

You also will need to be concerned about the residual shower water. It will also be contaminated. Depending on what type of drainage system the shower has, water may drain into the sewer. If the chemical is especially hazardous someone may need to notify an outside agency regarding potential contamination.

If you aren't sure about what chemical has been involved in the incident, or what the reporting requirements are, see you supervisor.

Most Chemical Splashes Involve the Eyes

Most chemical splashes involve the eyes. In these cases, get to an eye wash as quickly as possible. Then:

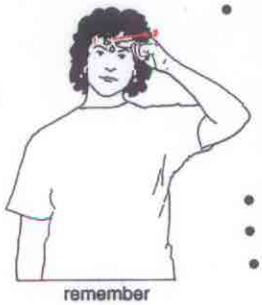
- Hold the affected eye open with your fingers.
- Rinse the eye completely, both over and under the eyelid.
- If only one eye has bee splashed, don't contaminate the other eye with residual water.

Many portable eye wash stations do not supply 15 minutes of water. You should only use these for an initial wash. Follow up with a 15 minute rinse at another eye wash station or shower.

Small "eye was bottles" don't provide adequate rinsing power. These should be used only when nothing else is available.

No matter what type of eye wash has been used on a victim, they should get medical attention immediately. If you are involved in an incident, or act as a "helper", make sure to arrange for medical help. Report the incident to your supervisor as well.

Remember…


remember

- Read MSDS's on the substances you are working with…to determine if you may need a safety shower or eye wash in case of an accident.
  - Most incidents that require a safety shower or eye wash result from carelessness…do everything possible to protect yourself from hazardous substances.
  - Know where to find the safety shower and eye wash nearest to you…you should be able to do it with your eyes closed.
- Safety showers and eye washes should be tested periodically, and the results recorded.
- To adequately dilute hazardous chemicals, rinse with the water for at least minutes.
- Shower water is normally cold…victims should be monitored for signs of hypothermia.

Accidents do happen…so you should be prepared to act in and emergency. Know the location of safety showers and eye washes…and how to use them. You may be able to prevent a serious injury.